Week 16

Tuesday 7th July 2020

Year 5 Using Formulae - Varied Fluency

Watch the demonstration on **formulae (or formulas) to be able to have a better understanding on what is a formula, how to use one and how to form one.
https://www.youtube.com/watch?v=MMjI_c2EJU0

Formulae is the plural of **formula**, so one formula **two formulae** or **formulas**. We use **formulae** in **Algebra** as it represents a set of quantities (variables - i.e **P = 4a** which is used to represent **perimeter = 4 x measurement of one side**. This formula would be for the perimeter of a square as it has 4 equal sides)

As Algebra is mainly a year 6 objective, you only have to complete **D** and **E**.

Formulae

1a. Match each box on the left to the correct label.

P = 2a + 2b

formula

36 + 56 = 92

calculation

1b. Match each box on the left to the correct label.

30 = 16 + 14

formula

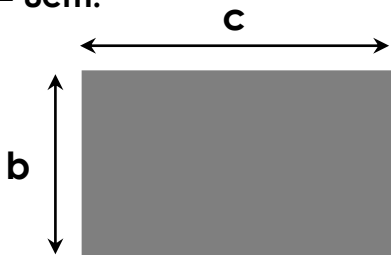A = c x d

calculation

2a. Work out the area (A) of this shape using the formula A = b x c, if b = 5cm and c = 8cm.

c

b

Not to scale

2b. Work out the perimeter (P) of this shape using the formula P = 2a + 2b, if a = 4cm and b = 9cm.

a

b

Not to scale

3a. Circle the correct formula for doubling a number.

D = n x n

D = 2n

$D = \dfrac{n}{2}$

3b. Circle the correct formula for halving a number.

H = n ÷ n

H = 2n

H = n ÷ 2

4a. The number of adults (a) needed to oversee an early years trip is calculated as six children (c) to each adult.

Expressed as the formula:

c = 6a

If there are 5 adults how many children can go on the trip?

4b. The number of clean towels (*t*) needed by a hotel is calculated as 3 per guest (*g*).

Expressed as the formula:

t = 3g

If there are 20 guests how many clean towels do they need?

Formulae

Formulae

5a. Match each box on the left to the correct label.

9 + 3y	formula
V = 4r + s	expression
25 = 100 ÷ 4	calculation

E

5b. Match each box on the left to the correct label.
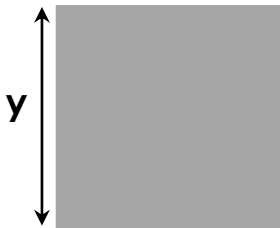
27 – f	formula
35 ÷ 7 – 3 = 2	expression
R = 2h x 4	calculation

E

6a. Work out the perimeter (P) of this shape using the formula P = 4y, if y = 2.3cm.

y

Not to scale

E

6b. Work out the perimeter (P) of this shape using the formula P = 2(y + z), if y = 1.5cm and z = 5.2cm.

y

z

Not to scale

E

7a. Circle the correct formula for finding a squared number.

$$a = 2b$$

$$a = b \times b$$

$$a = \frac{b}{2}$$

E

7b. Circle the correct formula for finding 25% of a number.

$$a = n \div 25$$

$$a = 0.25n$$

$$a = \frac{n}{25}$$

E

8a. To calculate the price of a taxi (*P*), the firm decide to charge £0.75 per mile (*m*).

Expressed as the formula:

$$0.75m = P$$

If a journey is 8 miles how much will a taxi cost?

E

8b. When baking cupcakes, Sara needs half the amount of sugar (s) to flour (f).

Expressed as the formula:

$$s = \frac{f}{2}$$

How much sugar will she need if she uses 250g of flour?

E